

11.3 WATER

11.3.1



Investment for water savings: Hilton Malta, Malta

In 2006 Hilton Malta embarked upon a number of environmental projects, including a series of capital projects to reduce energy and water use across its operation, which culminated in the award of EU Flower environmental certification to the hotel.

Being a resort hotel in very warm climate, water consumption tends to be high and the fact that the island lacks sufficient rainfall to cater for all its fresh water needs is a particular challenge. With this in mind, Hilton Malta implemented a series of initiatives to make significant reductions in its consumption of water and reduce its dependence

which can achieve 60 per cent energy recovery, thus reducing the total electrical energy required to purify the water. The total cost of investment was US\$360,000, delivering a payback period of 3.5 years.

- The existing wastewater treatment plant was converted from a sequence batch reactor system to a continuous reactor system.

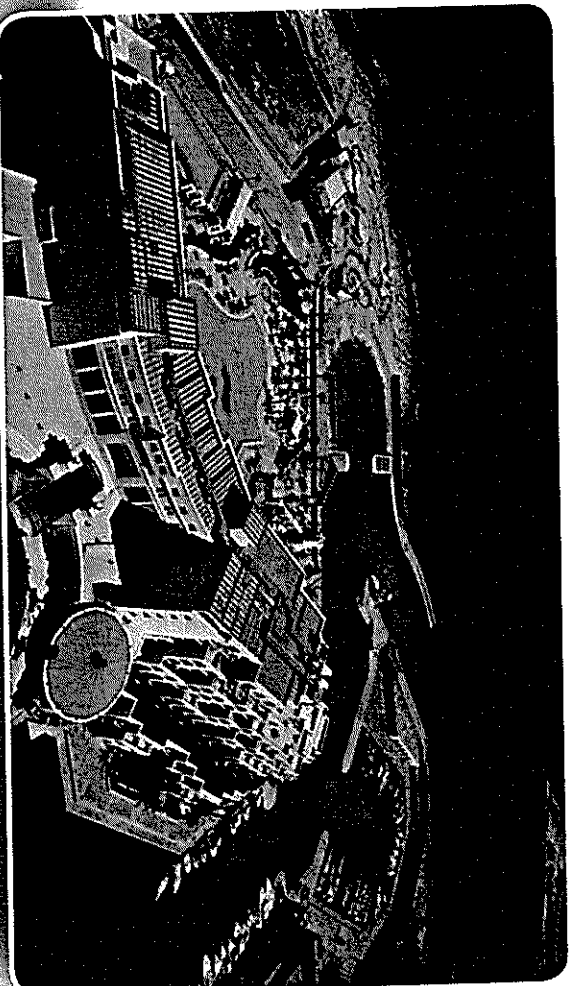
The treatment plant now recycles 16,000m³ of wastewater annually and the cost of conversion was US\$36,000, resulting in a payback period of 11 months. The water is used for irrigation and is also distributed through the second-

according to seasonal conditions. Pre-programmed time cycles permit the hotel's grounds to be watered in the early morning, reducing the amount of water lost through evaporation.

- The chillers supplying the hotel's air conditioning system are cooled by means of seawater in order to eliminate dependence on fresh water.

- Online and in-house training for all the hotel's team members on the importance of water management.

Hilton Malta is now being benchmarked as the leading



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on the fresh water supplied through the local mains water system. It managed to reduce water consumption compared with the previous year by 8,700m³ (enough to fill 58,000 bathtubs) through the following ways:

- Two new 125m³/day reverse osmosis plants were installed, providing the hotel with 39,000m³ drinking water from seawater per year. The system has a water yield of 42 per cent and uses a process

class water network system across the hotel to supply all flushing cisterns. This enables the hotel not only to avoid using an additional 16,000m³ of drinking water, but also to reduce the load on the local sewer system by the same volume of water, as eventually the water would have been discharged into the sea after treatment.

- Automatic irrigation systems control the amount of water used to irrigate the hotel grounds,

the environmental organisation on the island. It is leading by example and minimising its impact on the environment in collaboration with governmental and other non-governmental institutions. As well as the EU Flower eco-label and many other environmental awards, Hilton Malta was most recently awarded the Environment Award for Industry of the Year in 2007 for its Management for Sustainable Development, awarded by the Islands Centre for Cleaner Technology.

11.3.2

Low to medium cost investment for water savings:

The Surfers Paradise Marriott Resort & Spa, Gold Coast, Queensland, Australia

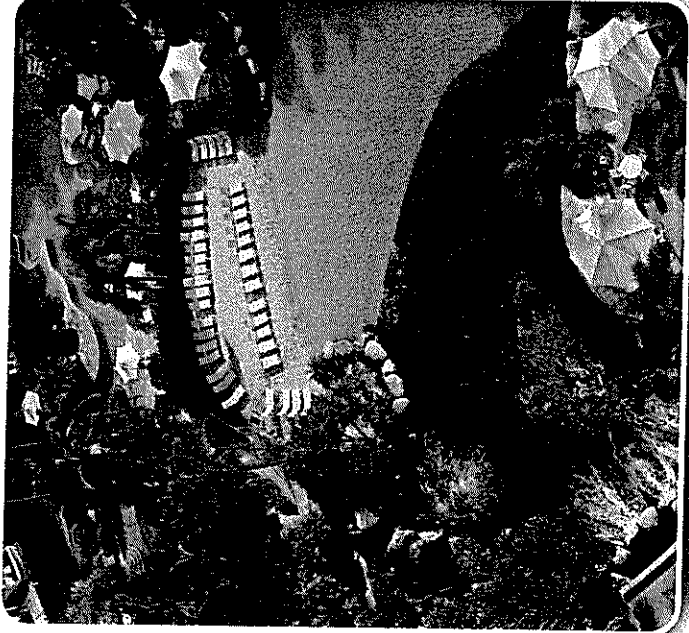
The 28-storey Surfers Paradise Marriott Resort & Spa has 329 luxurious rooms and suites and is situated in the heart of the Gold Coast alongside the Nerang River. A number of water efficiency initiatives have been put in place over recent years to reduce the resort's water use, which have also led to savings in energy and elsewhere.

Conversion to ozone water treatment in the laundry reduced the hot water requirement for washing and all washing is now carried out using cold water. The implementation cost was approximately Aus\$70,000 and it yielded savings in chemical costs, water use, energy for hot water and drying as well as a reduction in labour. The return on investment or payback time on the project was 8.5 months.

Installation of water restrictors to showers and basins provided savings in both cold and hot water usage and, as a result, gas consumption. Water flow was reduced from 18 litres to nine litres per minute in showers and from 14 litres to six litres per minute

in basins. The water restrictors were chosen because of their simplicity to install, the cost and the fact that the savings did not affect guest amenity. The implementation cost of Aus\$30,000, including the cost of labour, was recovered in 10 months with savings in water use and energy (hot water). The resort converted all toilets to dual flush, reducing from a single nine litre flush to a dual six/ three litre flush.

Optimisation of the control of water pumps for water features and swimming pool filtration was undertaken with multiple pumps being able to reduce the number of pumps on at any one time. Pumping times were also reviewed in line with daily and seasonal variation in use of the facilities. This cost nothing to implement and led to immediate savings.



11.3.3

**Laundry water saving:
The Fairmont Royal York,
Toronto, Ontario, Canada**

Under the City of Toronto's Water Saver Program, industrial, commercial, and institutional sectors are rewarded for demonstrated water savings. The Fairmont Royal York was the first commercial property to be awarded CAN\$48,685 (US \$42,096) for its efforts. In 2005, the hotel installed a commercial water softener that reduced water use in the laundry to one wash and one rinse per cycle, saving 476,000 litres of water per day – enough water to supply 500 homes!

